

ABSTRACT OF THE DISCLOSURE

The present invention provides an all-digital frequency synthesizer circuit using interpolation technique and Linear Feedback Shift Register (LFSR). This synthesizer adaptively outputs two sequences stored in a bank of memory, or shift register. Using the
5 idea of interpolation, all synthesizable frequencies located between two predetermined threshold frequencies can be obtained, and resolution is determined by the order of LFSR thereby. A frequency synthesizing system is also included in the present invention.